NWS Form E-5 U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE **MONTHLY REPORT OF HYDROLOGIC CONDITIONS**	**HYDROLOGIC SERVICE AREA:** Pocatello, Idaho (PIH) **REPORT FOR:** **MONTH:** February **YEAR:** 2017
TO: Hydrologic Operations Division, W/OH2 National Weather Service National Oceanic and Atmospheric Administration Silver Spring, Maryland 20910	**SIGNATURE** Travis Wyatt Service Hydrologist / Acting **DATE:** March 16, 2017
When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts and hydrologic products issued (NWS Instruction 10-924).	

☐ **An X in this box indicates that *no* flooding has occurred for the month within this hydrologic service area.**

Overview:

February was another banner month for precipitation and snowfall. There were records for precipitation and snowfall in February. Most of the area, except for our Northeast corner, was 200 to 400 percent of normal precipitation again. Monthly total rainfall was 6.24 inches in Bellevue and 5.38 inches in Stanley. There were 7 precipitation records for our 5 climate locations. There was 1 daily snowfall record as well as the monthly precipitation record for Pocatello airport climate location. Most of the area had temperatures 1 to 7 degrees above normal. Stanley was 6.5 degrees above normal. One high temperature record was broken as well for our 5 climate locations. Mean average temperatures ranged from 25 degrees F for Stanley to 35 degrees F for Burley across the HSA. Stanley and Bern CO-OP stations both exceeded yearly snowfall records.

The above normal temperatures as well as rain on snow brought moderate to severe flooding to Bingham, Caribou, Cassia, Custer, Franklin, Jefferson, Lincoln and Minidoka. There was widespread damage to roads and to a lesser degree homes and businesses across these counties. The counties above all declared county disaster declarations. Cassia, Franklin, Jefferson, Lincoln and Minidoka counties all declared state disaster declarations. There was an ice jam that caused minor flooding to a couple of homes on the Lost River near Darlington in Custer County. The Portneuf river in Pocatello also reached minor flood stage with only minor field flooding reported.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the eastern Idaho forecast is for equal chances for above or below normal temperatures and 33 to 40 percent chance of above normal precipitation. The one-month forecast graphics are below. For the three-month outlook, the temperature forecast is equal chances for above or below normal. As for three-month outlook for precipitation, the outlook continues with a 33 to 40 percent chance of above normal precipitation pattern across eastern Idaho.

Of the data available for the month, the stations (non-SNOTEL and non-RAWS) within the HSA reaching the highest 24-hour temperatures were Oakely and Pocatello COOP stations reaching 54°F and 52°F respectively on the 18th and 16th respectively. The station (non-SNOTEL and non-RAWS) with the lowest recorded temperature were the Stanley, Lifton Pumping Station, and Island Park COOP stations at -13°F, -6°F, and -6°F respectively on the 23rd, 26th and 4th respectively. The highest recorded 24-hr precipitation (non-SNOTEL) occurred at the Driggs and Monteview COOP stations where 2.07 and 2.00 inches respectively fell on the 10th and 19th respectively. The highest recorded monthly precipitation totals (non-SNOTEL) occurred at the

Bellevue, Stanley, and Bern COOP stations where 6.24, 5.38 and 5.17 total inches respectively were recorded. All basins received above normal precipitation. Basins in our north ranged from 300 to 475 percent above normal, and basins in our south ranged from 150 to 300 percent above normal. The basins receiving the greatest precipitation were the Big Lost, Little Wood, the Big Wood, and the Big Wood above Hailey receiving 466%, 438 %, 394%, and 386% of average precipitation respectively for the month of February-based on SNOTEL data.

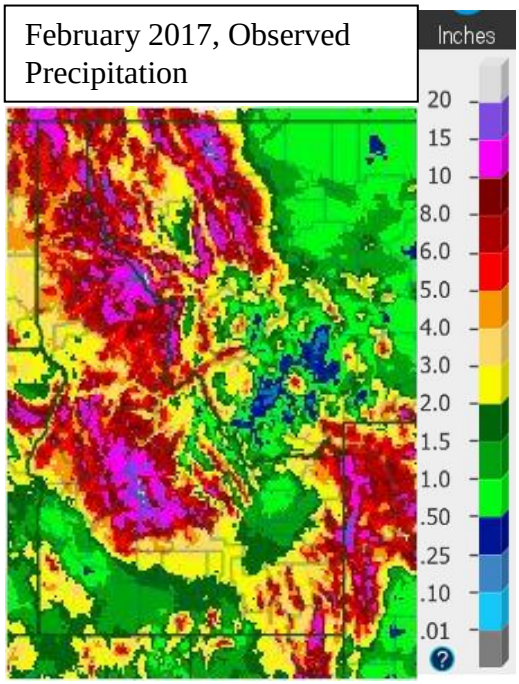
Reservoirs last month decreased capacity overall by around 5% in the upper Snake River basin system and is currently sitting at 68% of capacity overall. Compared to last year at this time, it was about 68% of capacity. According to the Natural Resources Conservation Service and U.S. Bureau of Reclamation reservoir data, the most notable decrease in storage capacity was the American Falls reservoir as well as the Island Park reservoir decreasing percent capacity by 20% as well as 8% respectively. The U.S. Bureau of Reclamation and canal companies have started releasing water in most reservoirs in preparation for flood season. Little Wood, Mackay, and Lake Walcott increased storage by 41%, 6% and 6% respectively. Only Oakley remained unchanged, all other reservoirs showed decreases in storage capacity. The Magic, Jackson, and Blackfoot reservoirs currently have the highest percent of average at 136, 135 and130 respectively, and Oakley and Little Wood reservoirs have at the lowest at 24% and 38% of average respectively.

Current streamflow conditions in eastern Idaho are below normal for the lower Snake River plain, near normal for the Upper Snake River plain and above normal for the mountains for monthly streamflows of the unregulated streams (see USGS streamflow graphic below).

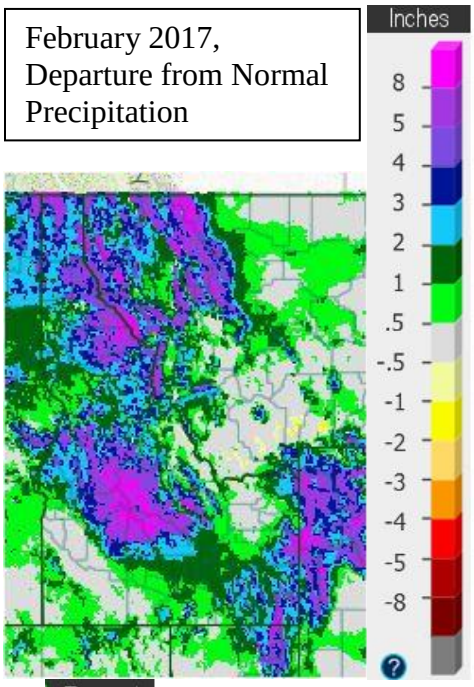
Because of continued well above normal precipitation, drought conditions across eastern Idaho are 0 percent in February as reflected on the latest U.S. Drought Monitor. This is a slight improvement from last month where only a very small percent of drought was listed. The latest update of the U.S. Seasonal Drought Outlook shows no change for the eastern Idaho's drought outlook forecast.

Precipitation:

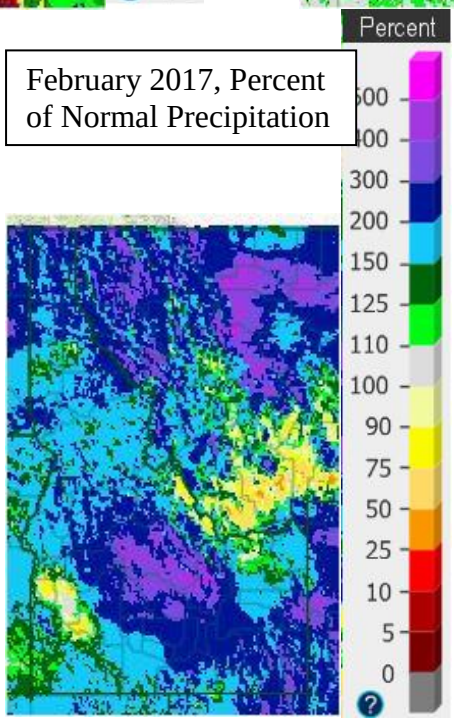
February 2017, Observed Precipitation



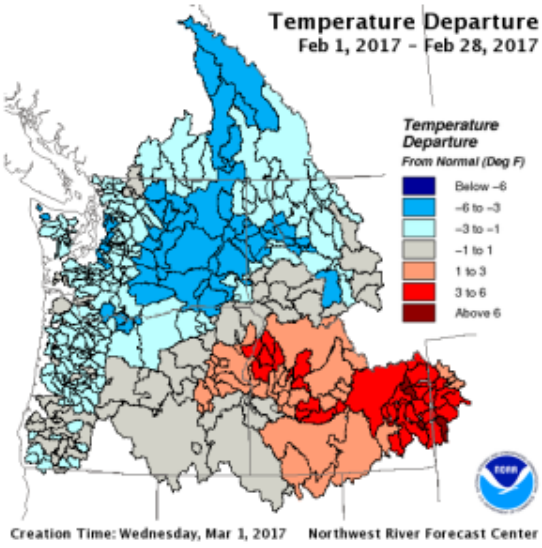
February 2017, Departure from Normal Precipitation



February 2017, Percent of Normal Precipitation



www.water.weather.gov/precip/#



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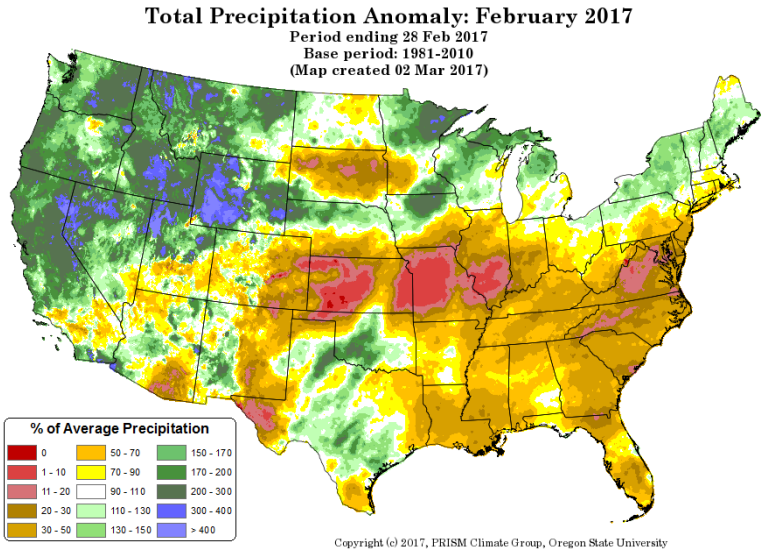
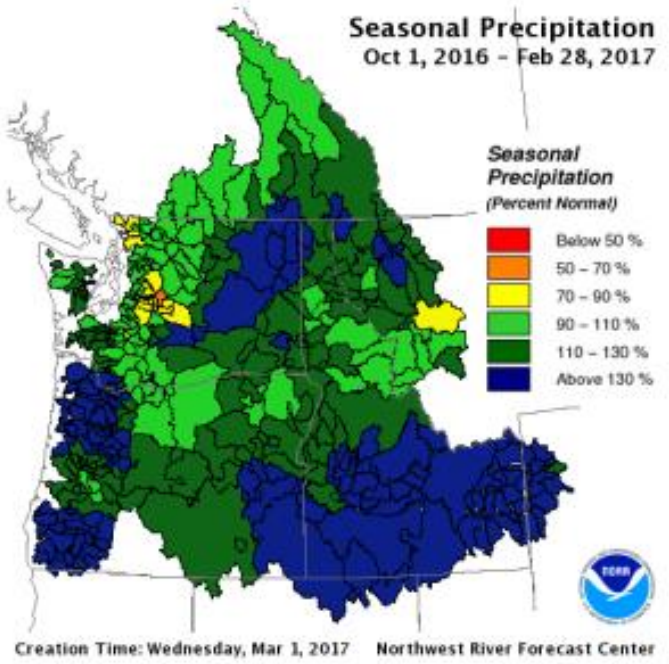
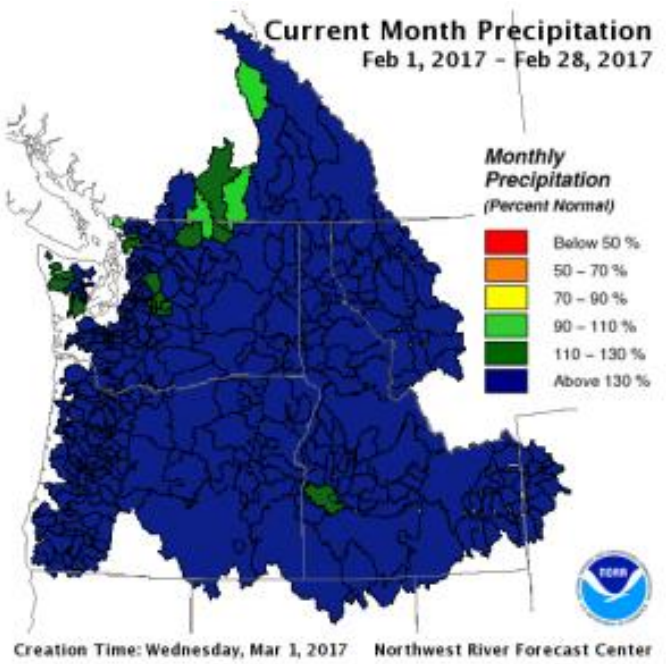


http://prism.oregonstate.edu/comparisons/anomalies.php



https://www.nwrfc.noaa.gov/WAT_RES_wy_summary/20170101/SeasonalMAP_WY2017_OCT_DEC.2017010117.png



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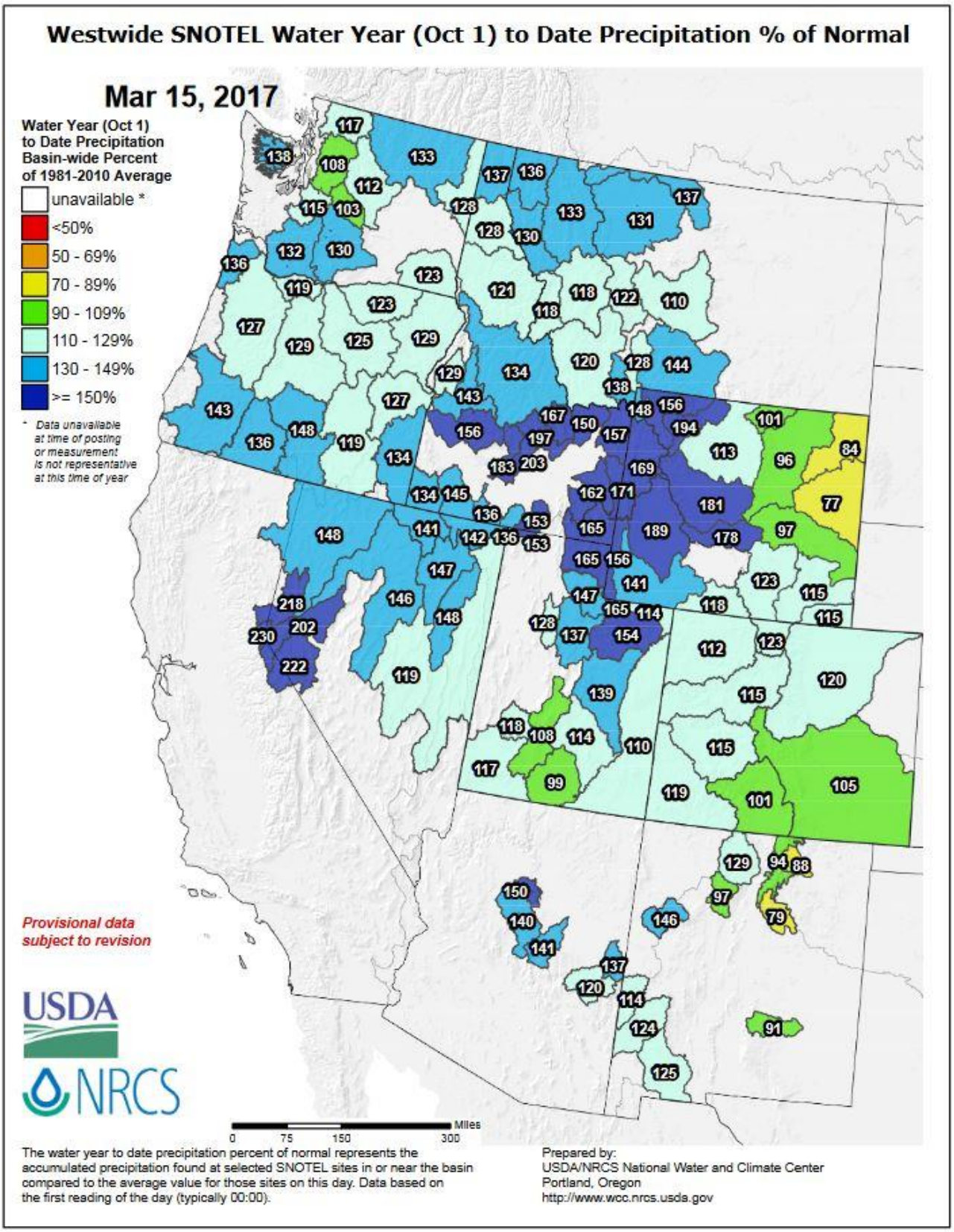
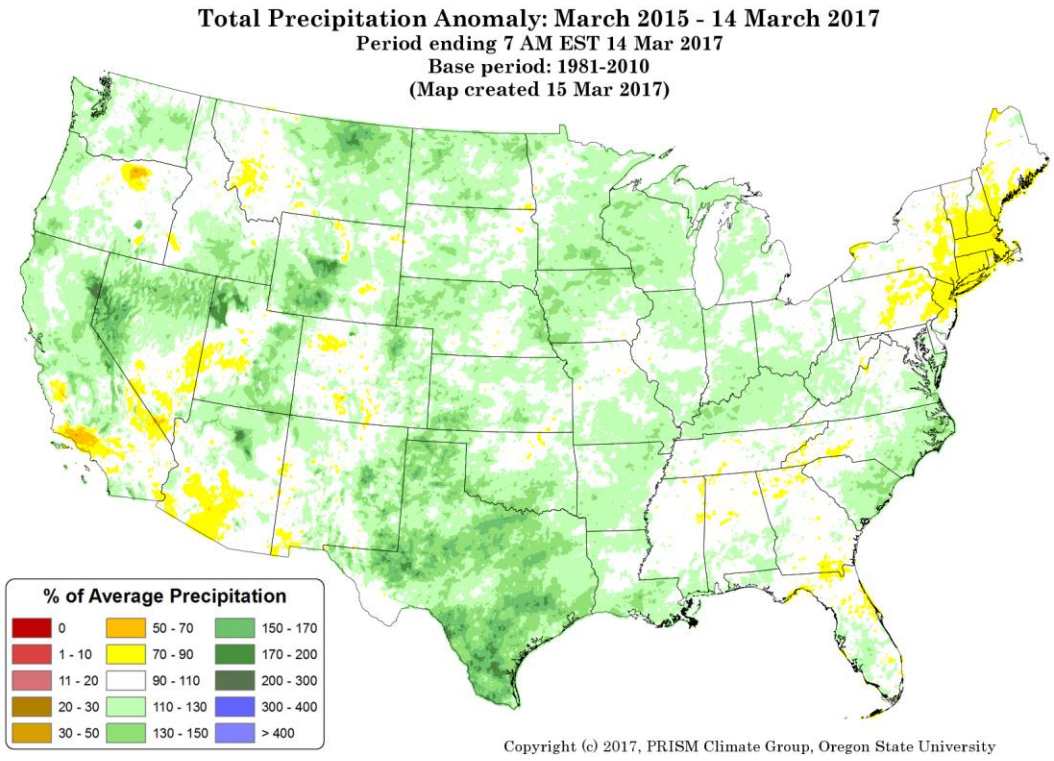
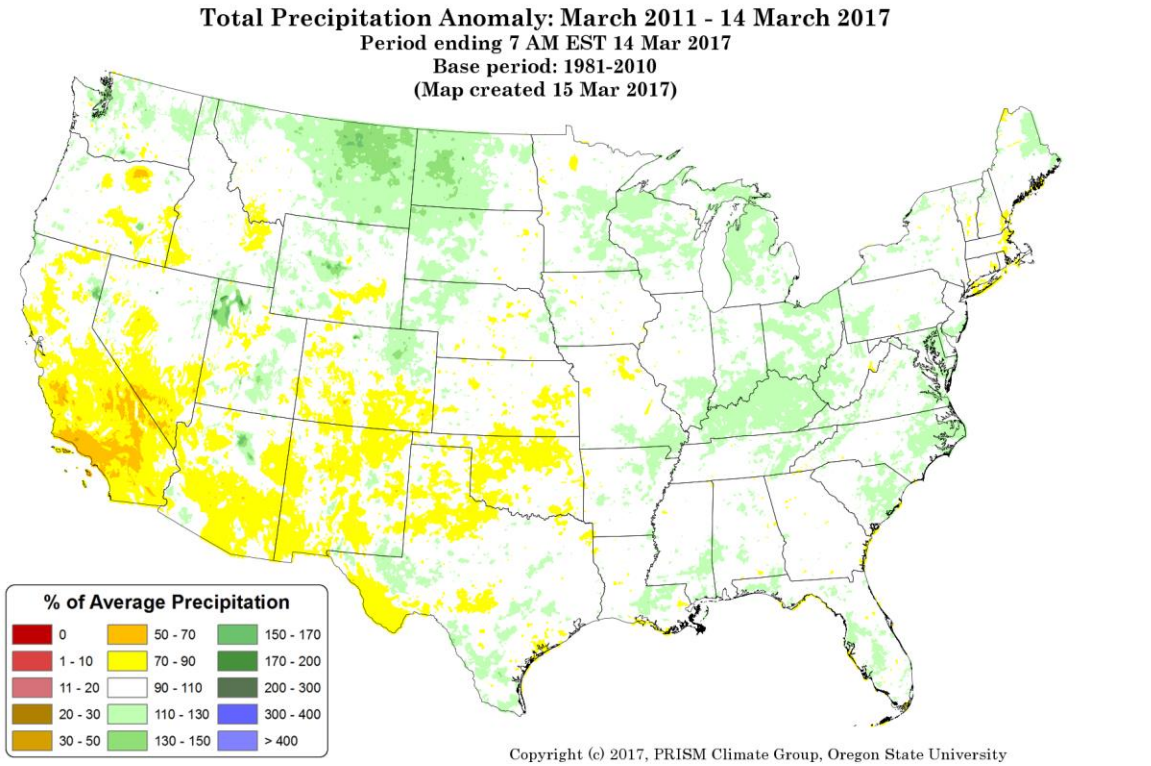


http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_wytdprecpctnormal_update.pdf

Past 2 Years of Precipitation % of Average:



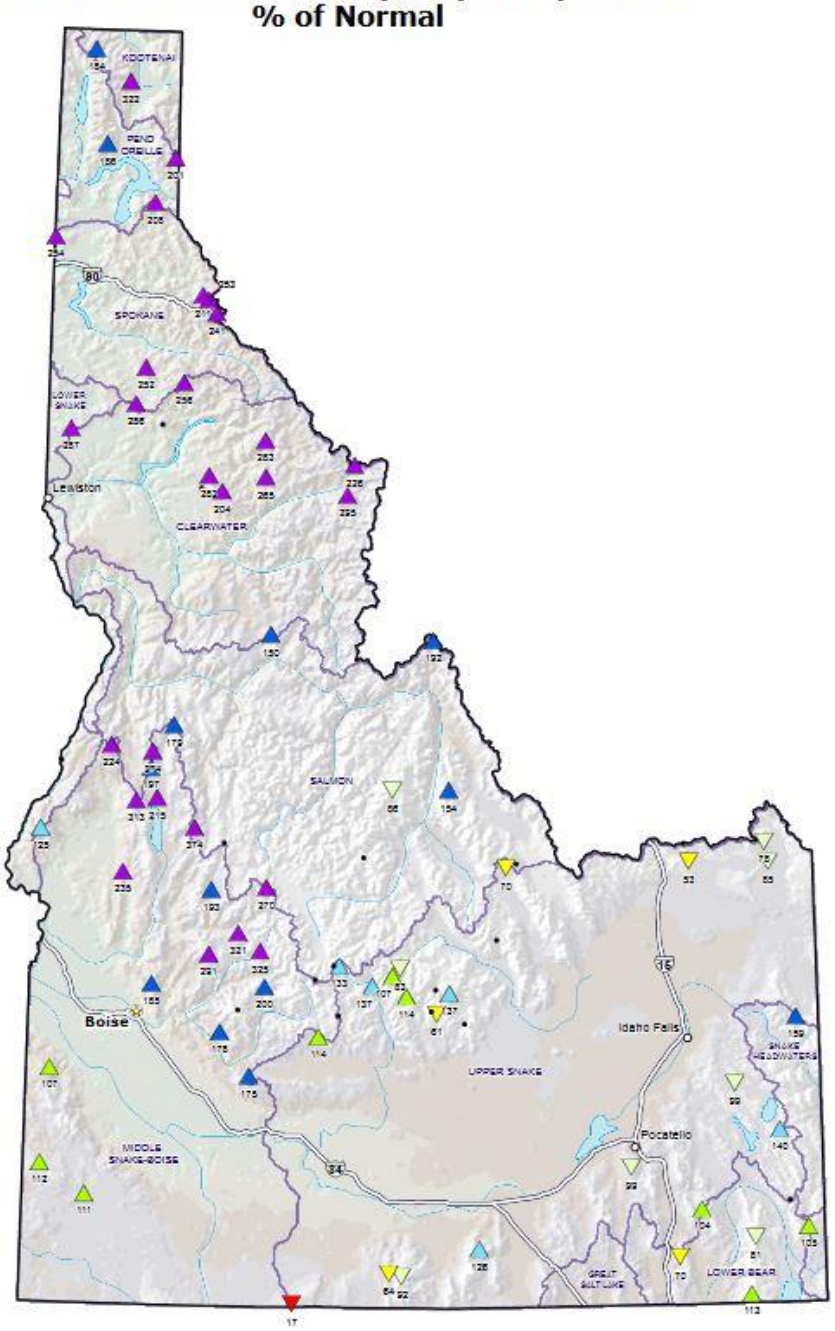
Past 6 Years of Precipitation % of Average:



www.prism.oregonstate.edu/comparisons/drought.php

Idaho
SNOTEL Month to Date (MTD) Precipitation
% of Normal

Mar 15, 2017



Current MTD Precipitation % of 1981-2010 Average

- ▲ > 200%
- ▲ 150-200%
- △ 125-149%
- △ 100-124%
- ▽ 75-99%
- ▽ 50-74%
- ▼ 25-49%
- ▼ 1-24%
- \+ 0%
- • Unavailable*

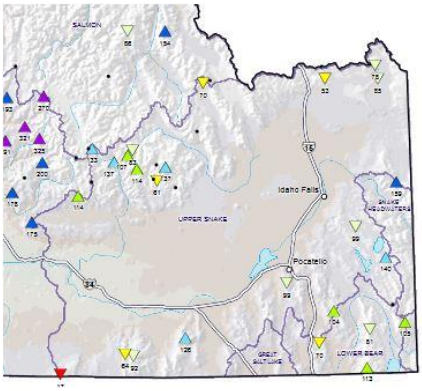
Provisional Data Subject to Revision

USDA NRCS

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

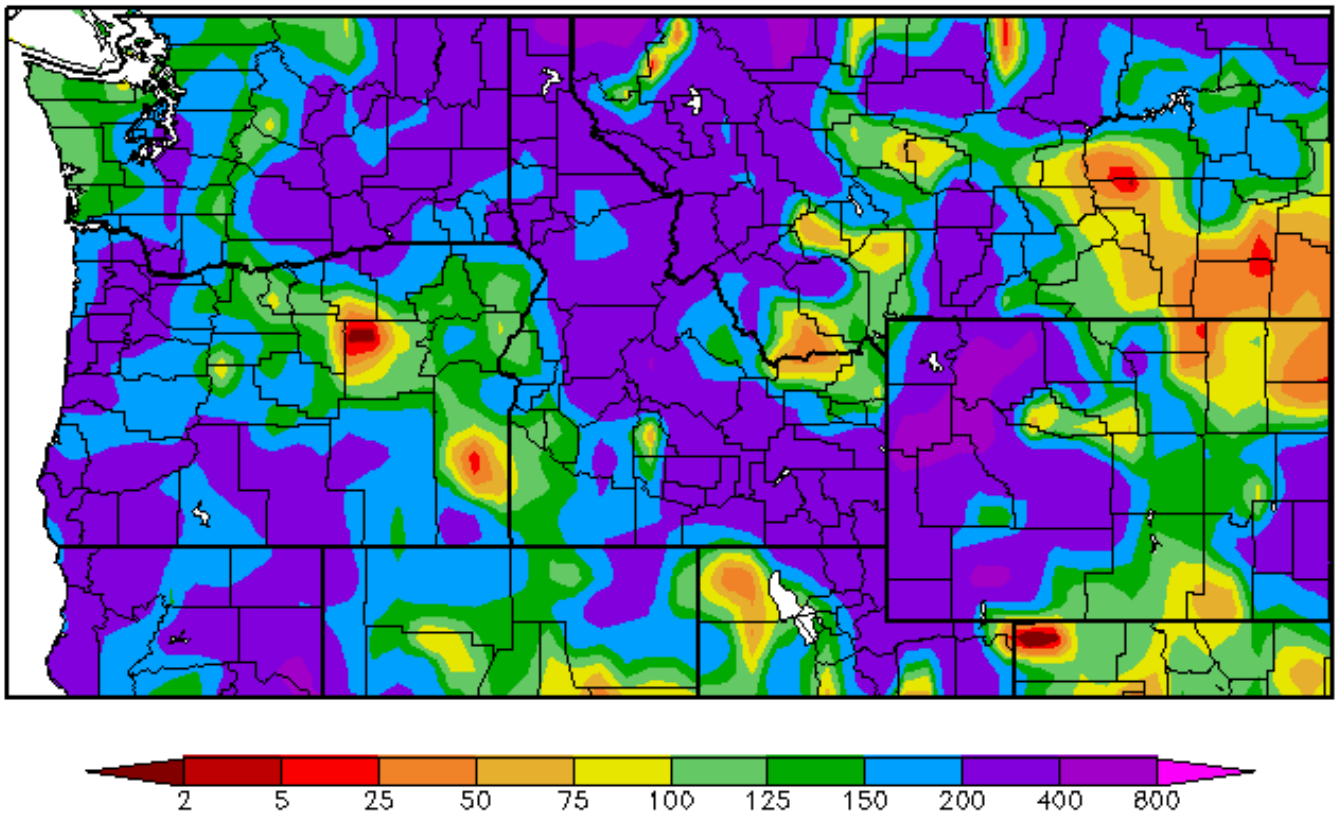
** Data unavailable at time of posting or unavailable long-term normal.*

http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_mtdprecpctnormal.pdf



SNOTEL MTD % of Normal Precipitation for middle of March 2017
(image is cropped from above image)

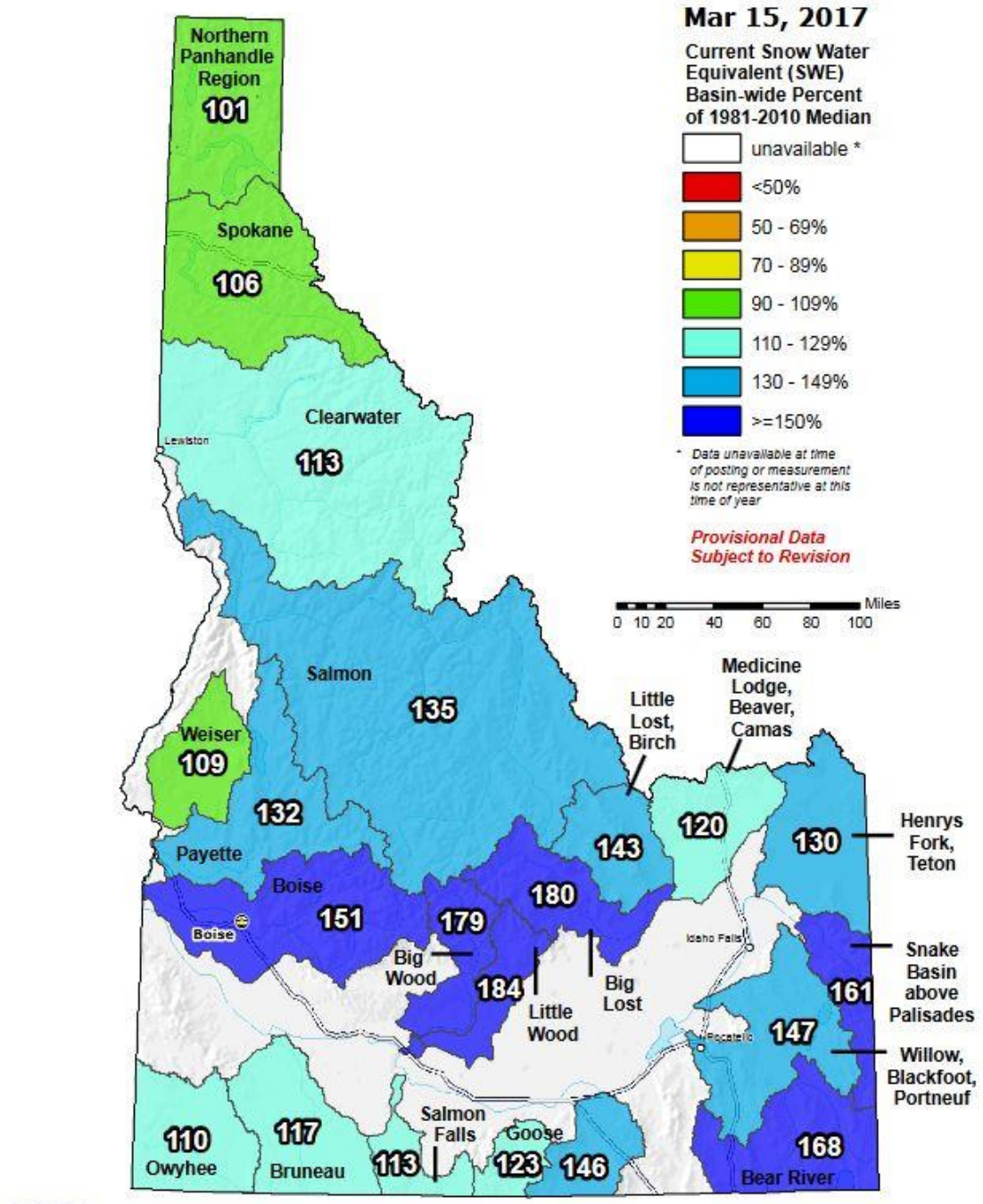
Percent of Normal Precipitation (%)
2/1/2017 – 2/28/2017



Generated 3/11/2017 at HPRCC using provisional data. Regional Climate Centers

January continued the well above normal precipitation for most of our area. Most areas received 200 to 400 percent of normal. Our Northeast region of our forecast area, to include Freemont, Madison, Teton, Clark and Jefferson Counties saw 50 to 150 percent of normal.

Idaho SNOTEL Current Snow Water Equivalent (SWE) % of Normal

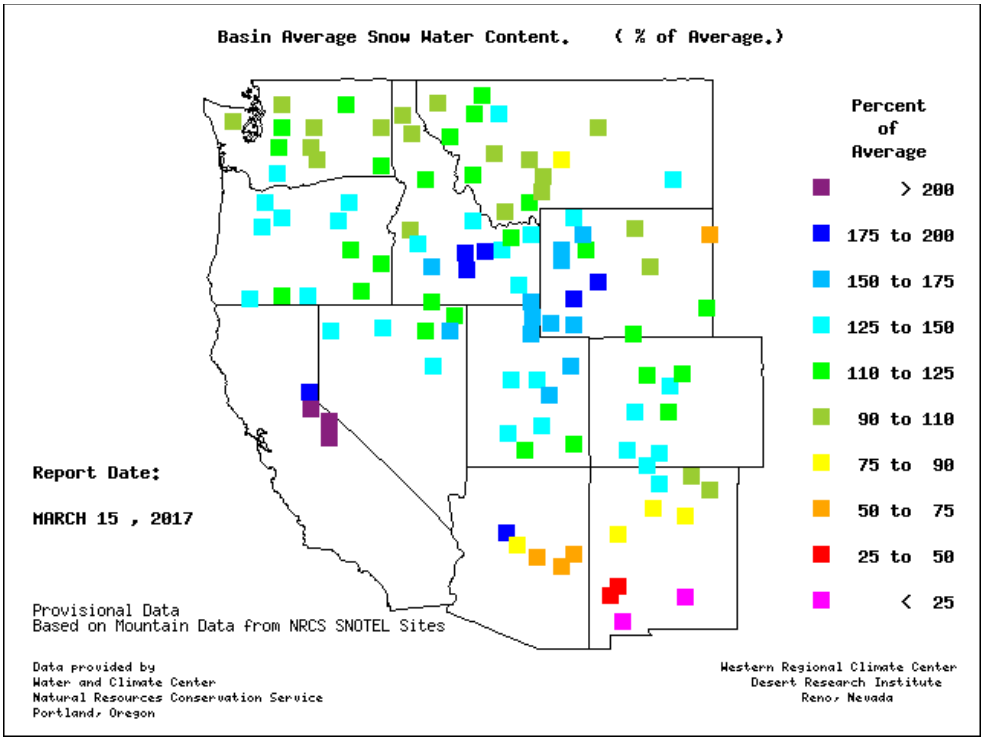


USDA NRCS

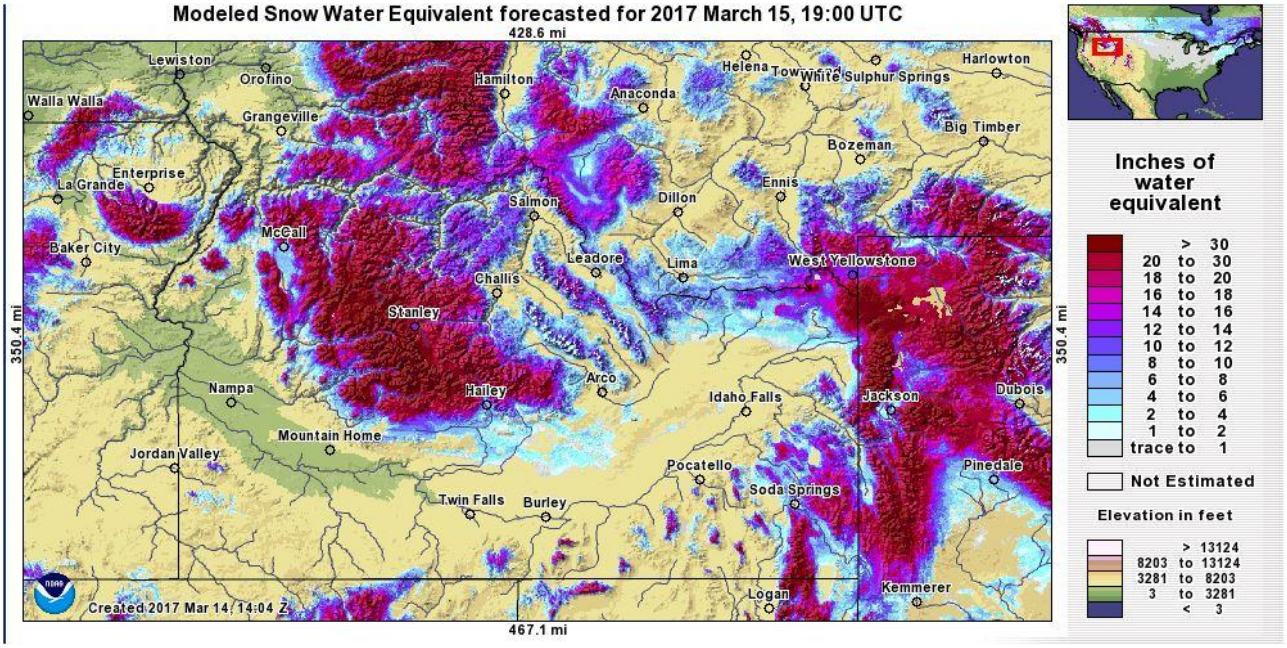
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_swepctnormal_update.pdf



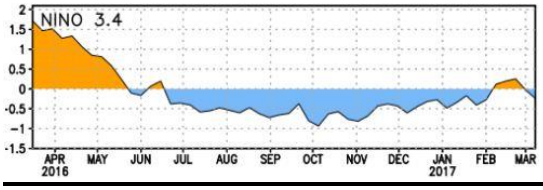
www.wrcc.dri.edu/snotelanom/basinswe.html

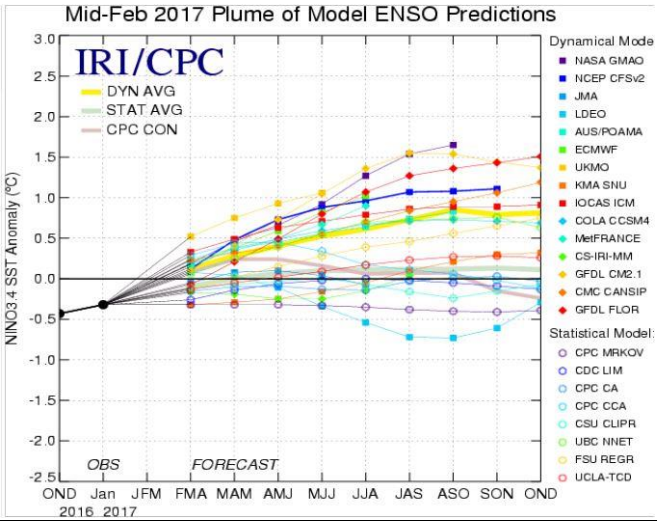


www.nohrsc.noaa.gov/interactive/html/map.html

ENSO Update:

Latest Observed SST Departure: Niño 3.4 ~ -0.2 Deg C





www.cpc.ncep.noaa.gov, **iri.columbia.edu/climate/ENSO** ***and***

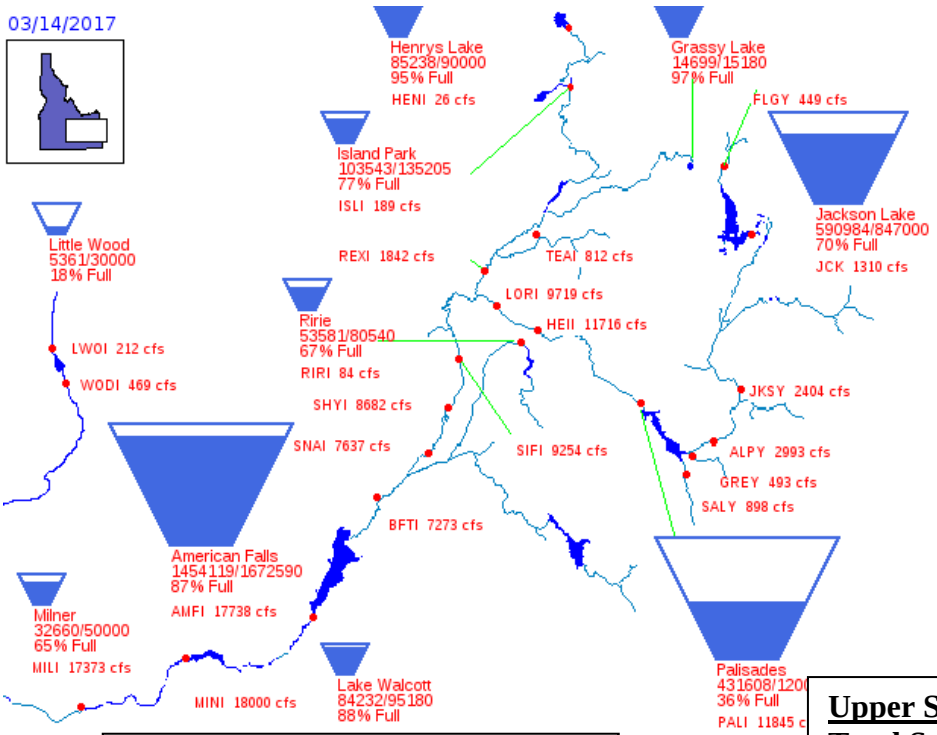
CPC Synopsis: ENSO-neutral conditions are present. Enso-neutral conditions have returned and are favored to continue through at least the Northern Hemisphere spring 2017, with increasing chances for El Nino development into the fall.

Note: Equatorial sea surface (SSTs) are near-average across the central and east-central Pacific. They are above-average in the eastern Pacific Ocean. The MJO has weakened the past week, and dynamical model RMM index forecasts generally a weak MJO signal during the next two weeks. The Pacific Decadal Oscillation (PDO) is still slightly positive.

Reservoirs:

Reservoir	% Capacity January 31[1]	% Capacity February 28[2]	Percent Change	% of Average[2]	% of Average Last Year[2]
Jackson Lake	66	69	3	135	130
Palisades	46	52	6	78	94
Henrys Lake	91	94	3	105	97
Island Park	65	73	8	94	103
Grassy Lake	93	95	2	120	110
Ririe	60	62	2	122	117
Blackfoot	65	70	5	130	99
American Falls	67	87	20	113	87
Mackay	86	80	-6	121	107
Little Wood	79	38	-41	66	81
Magic	46	52	6	136	49
Oakley	24	24	0	81	61
Bear Lake	35	42	7	91	83
Lake Walcott	94[3]	88[4]	-6	n/a	n/a
Milner	64[3]	65[4]	1	n/a	n/a

Source: (1) NRCS January 31, 2017; (2) NRCS February 28, 2017.
(3) US Bureau of Reclamation (BOR) February 13, 2017 (4) BOR March 14, 2017

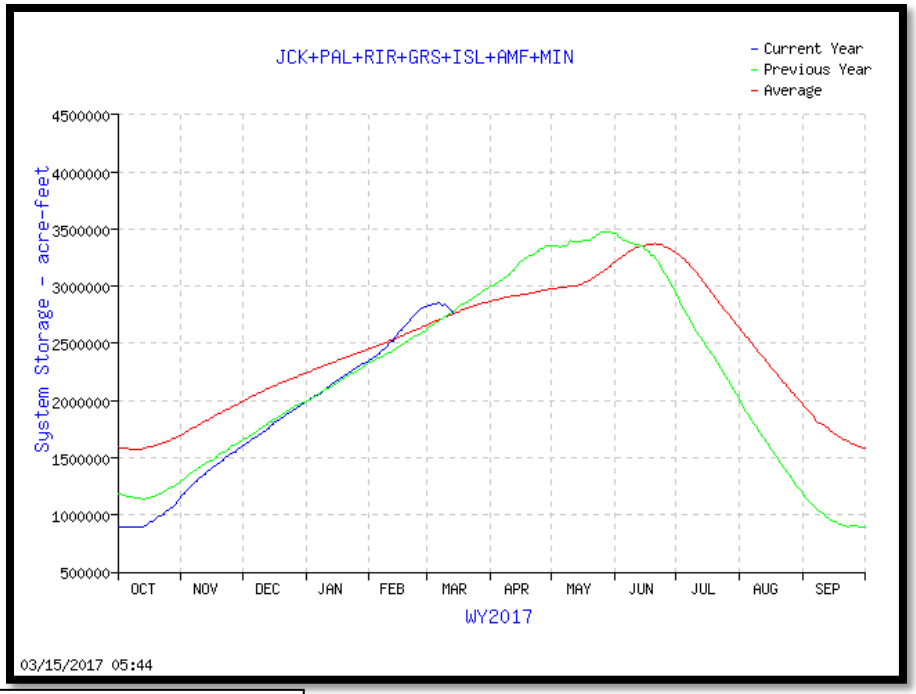


68% of Capacity in Upper Snake River System
(Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

www.usbr.gov/pn/hydromet/burtea.html

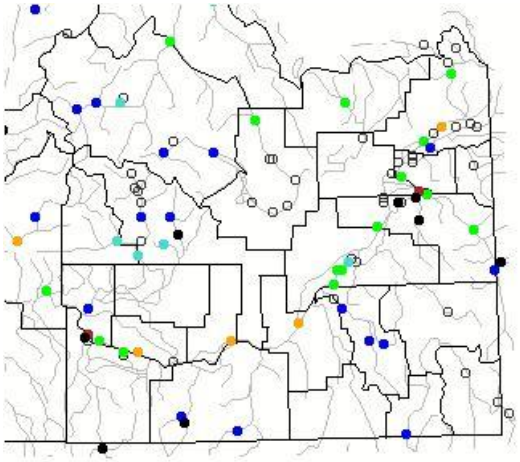
Upper Snake River:
Total Space Available: 1,312,928AF
Total Storage Capacity: 4,045,695 AF

Graph of Upper Snake River Current Total System Reservoir Storage



https://www.usbr.gov/pn-bin/graphwy.pl?snasys_af

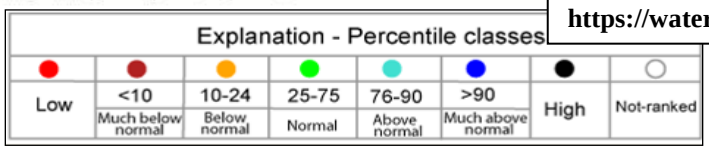
Streamflow:

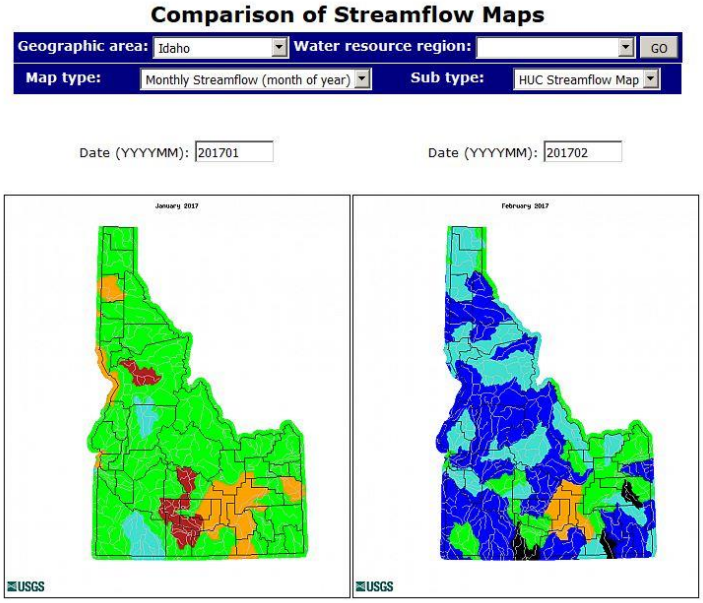


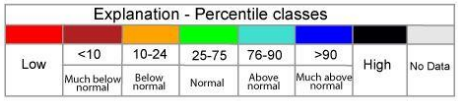
Monthly average streamflow compared to historical average streamflow for January 2017.

USGS

https://waterwatch.usgs.gov/index.php?r=id&id=mv01d



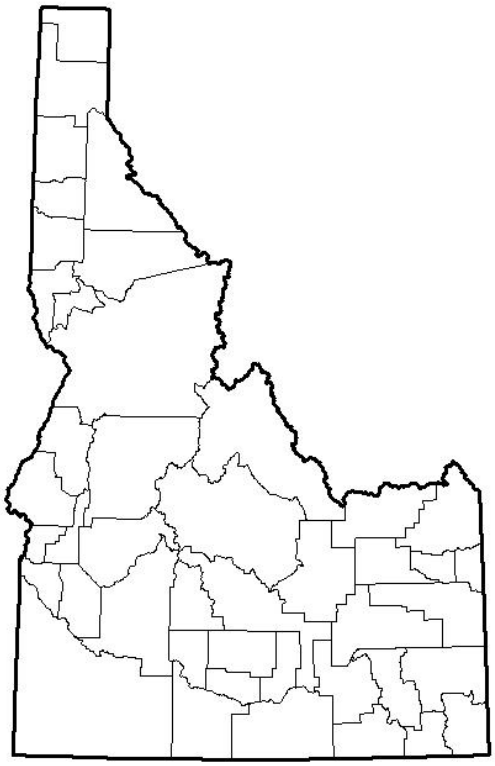




http://waterwatch.usgs.gov/index.php?id=wwchart_map2

Drought:

U.S. Drought Monitor
Idaho



March 7, 2017
(Released Thursday, Mar. 9, 2017)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week 2/28/2017	99.33	0.67	0.00	0.00	0.00	0.00
3 Months Ago 12/6/2016	82.66	17.34	1.04	0.00	0.00	0.00
Start of Calendar Year 1/3/2017	89.98	10.02	0.04	0.00	0.00	0.00
Start of Water Year 9/27/2016	6.14	93.86	8.89	0.00	0.00	0.00
One Year Ago 3/8/2016	19.06	80.94	13.79	0.00	0.00	0.00

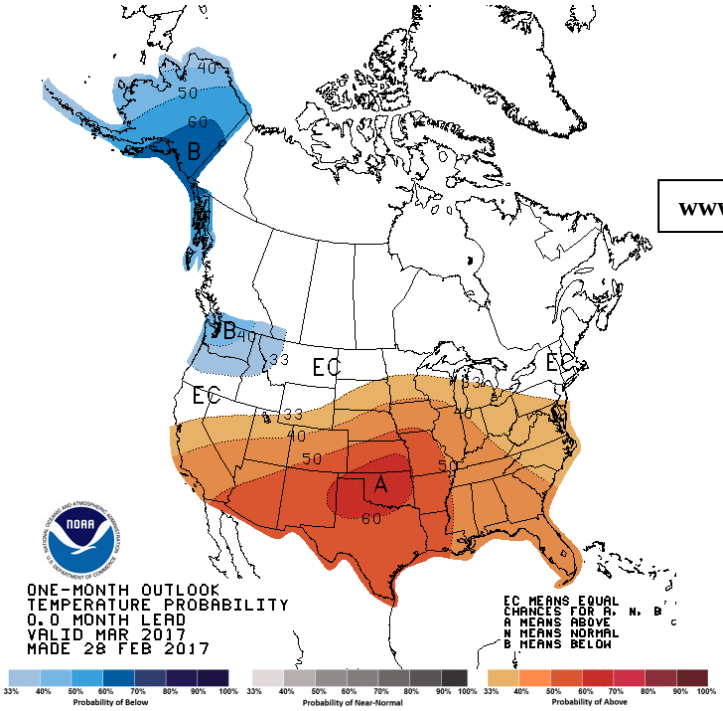
Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

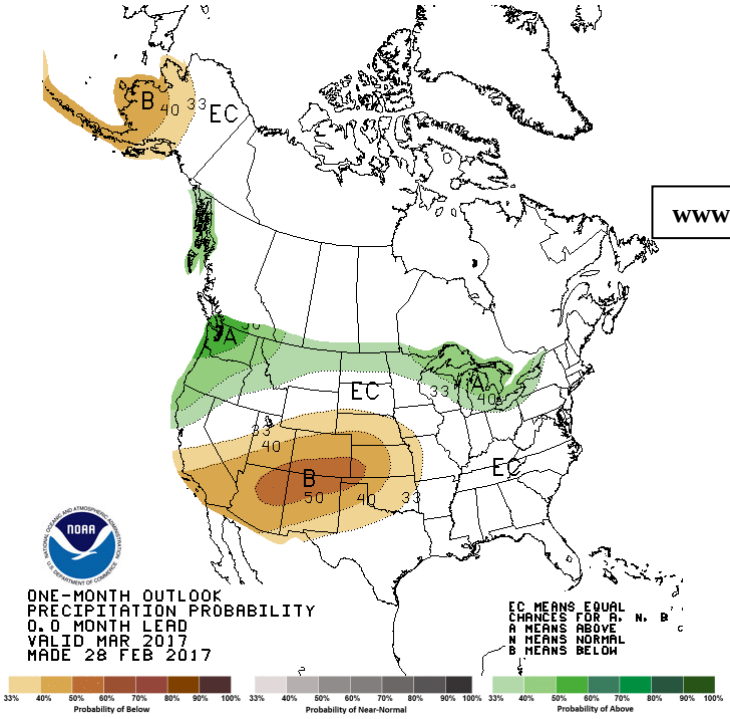
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Brian Fuchs
National Drought Mitigation Center

http://droughtmonitor.unl.edu/



www.cpc.ncep.noaa.gov/products/predictions/30day/off15_temp.gif



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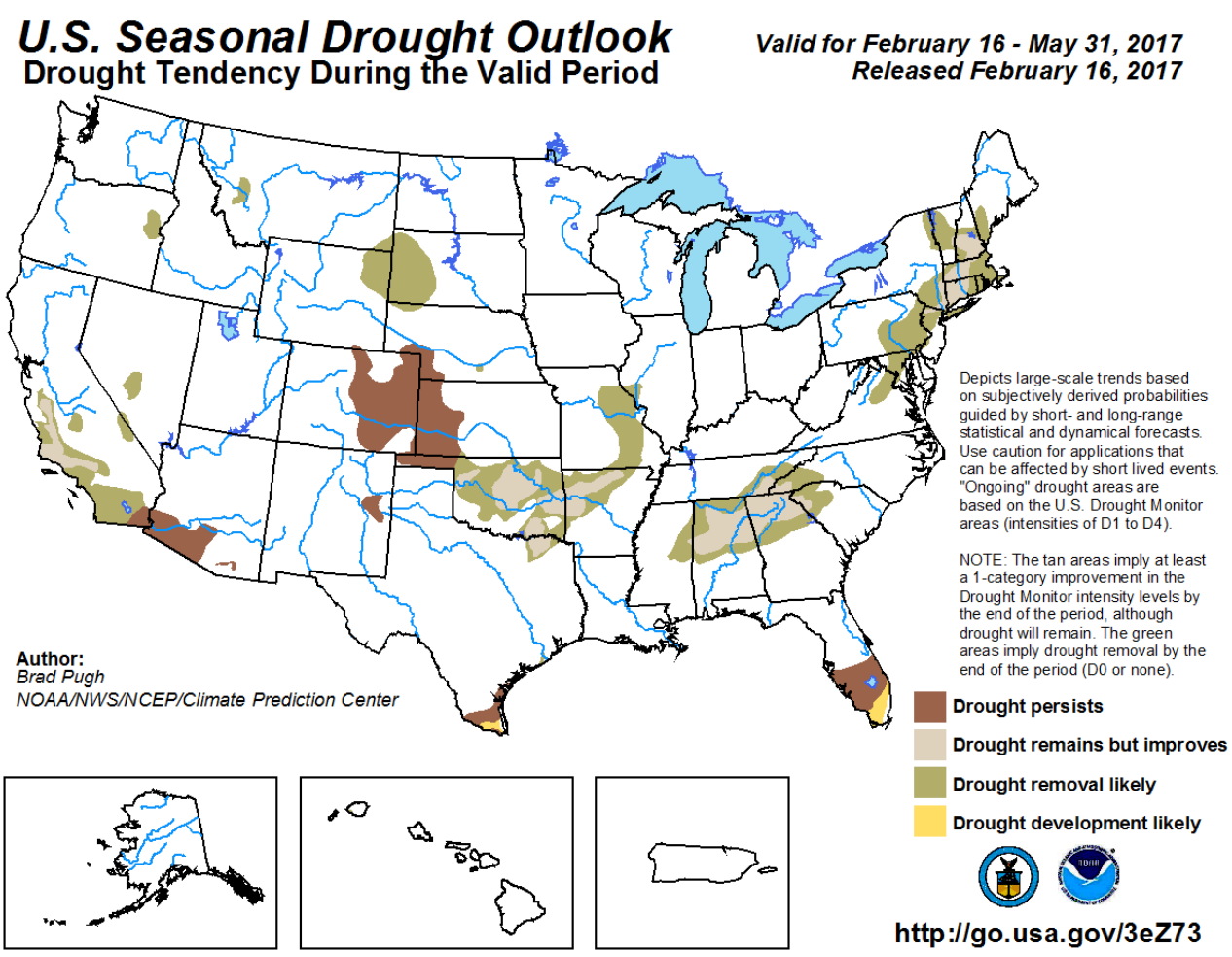

www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png

cc:

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Brent Bernard, Hydrologist, Colorado Basin River Forecast Center
PIH Mets/HMT (pih.ops)

End

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